

AVIATION WEEK

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JAN. 31, 1949



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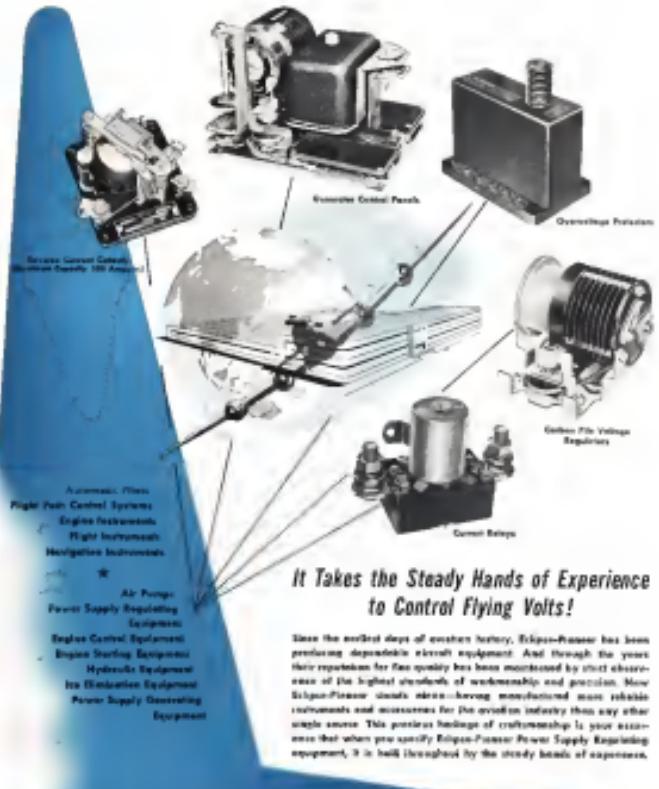
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THE AVIATION WEEK

CAB Wields Big Stick

The life and death power wielded by the Civil Aviation Board over all segments of the U.S. air transport industry may be used with telling effect during 1969.

Since its creation in 1958, CAB has devoted much of its energy to enlarging the domestic and international route network and to certification of new carriers. Even during the past two years, when world spot rates developed in the traffic and defense markets throughout the industry gave to planning pessimism, the Board did not stop, but merely slowed its expansion of the air map.

The Door Is Closing

Now, however, newcomers—and even companies which for three or more years have been fighting for certification—are finding the door of opportunity in air transportation a closing door. Nonairlined airways, all cargo carriers and some freighters seem likely to be the first victims. But even the fatalities are listed for a blow.

CAB Chairman O'Connell has emphasized that the Board's power to alter, amend, modify or suspend a carrier's routes in the public interest may be used more frequently in the future. The chairman states bluntly that he disagrees with any theory which says, even "with respect to the sanctity or perpetuity of a certificate of public convenience and necessity." Concerning this view, CAB member Harold Jones has asserted that a route certificate is merely a privilege granted by the Board and one which confers no vested property rights.

Passenger carrying airlines active domestically and to Panama, Rio and Alaska probably have the most tenuous lease on life. CAB's proposed withdrawal of the general consolidated exception would enable Board enforcement officials to crack down immediately on irregular carriers operating with excessive frequency or regularity. Most monopolies admit they cannot make money if they reduce their flights to a legal pattern. Some have tried conscientiously and have gone out of business. The anti-trust and Congressional support to facilitate CAB's death sentence. But the outlook remains bleak.

Extremely Narrow View

Large established international operators such as Transocean Air Lines, Alaska Airlines and Southeast & Western Airlines also are on the axioms seat. All have been doing a sizable and profitable business carrying passengers to and from foreign ports under contracts frequently for the U.S. armed services and other government agencies. But CAB's view of legitimate contract activity is an extremely narrow one. The Board already has taken enforcement action against major international contract carriers. Whether a full-blown crackdown is in prospect seems to depend in large measure on how closely

these carriers can get their routes to national defense requirements and America's growing international commitments under the global "hot line."

Date of domestic all cargo operations should be known very shortly. Most of the 16 unclassified names that presented their argument for certification at CAB hearings two years ago are out of business.

Five major all cargo lines were recommended for certification by CAB examiners in March of last year. But the Board will likely be less generous than its examiners. Without certification there is little prospect that one large domestic allcargo carrier can, or will attempt to, stay in business as a stand-alone or contract basis. Southeast & Western Airlines' single trans-Atlantic freight operation is prepared by the company plan revision of the non-scheduled exemption.

Abandoned Applications

Certifications among the 39 grandfathered CAB has designated for certification during the past five years appear certain. Late last winter the Board refused to extend the license of Florida Airlines just Mar. 28, 1968, but the carrier was still fighting hard for continued certification. Chances that at least three other grandfathered air carriers that were once thought viable and the franchises may be extended.

CAB has been riding its way slowly and cautiously toward suspension or revocation of trademark routes which are now authorized on a presumably permanent basis. The Board's intransigence in determining whether National Airlines' routes should be transferred to other carriers has given the industry a severe headache. In refusing to divest the NAL route, CAB forced itself that it may be the first in a series of similar moves to revise and improve the route pattern "for the good of the industry." CAB Chairman O'Connell believes the Board has a responsibility to take the initiative in situations which are equally unacceptable. He was warned the industry against obstinacy. "Some personal and corporate subsidies will have to be relinquished," O'Connell declared in pointing out that serious consideration must be given to desirable merger and consolidation.

"Surgery" May Be Required

O'Connell's strong stand reflects the statements made by former CAB Chairman James M. Landis early in 1967 when the Board decided to reexamine the need for activating Chicago & Southern Air Lines' Caribbean routes in view of the high subsidies involved. Landis and fully that "surgery" might be the only remedy for the situation.

This month, in the All American Airways decision, CAB special agents that it lacked the power to suspend a certificate. The Board said it could have suspended operation of the pickup service even if All American had not given its consent.

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AVIATION CALENDAR

Apr. 11-12—American Institute of Electrical Engineers winter general meeting, Hotel Statler, New York.

Apr. 12-13—American Bank Ministers annual conference, Marquette Hotel, Kansas City, Mo.

Apr. 14-15—Operation Atlantic, Atlantic City.

Apr. 18-19—National Spectrum Show, Clinton County Fair, New York.

Apr. 20-21-22-23—Advertisement division, WPA annual congressional operating conference, Community Lodge, Manhattan Beach, Calif.

Apr. 21-22—13th annual aviation conference, Ambassador-Traum Hotel, Indianapolis, Ind.

May 1—South West Association of Automobile Engineers meeting, Air Transport and Motor Hotel, Hollywood, Calif., with a tour of Lockheed.

May 20-21—Annual meeting of American Society of Naval Engineers, Hotel White, San Francisco.

May 21-22—1947 AIRPORT DIRECTOR'S MEETING, Chicago, Ill.

May 22-23—1947 AIRPORT DIRECTOR'S MEETING, Atlanta, Ga.

May 23-25—1947 AIRPORT DIRECTOR'S MEETING, St. Louis, Mo.

May 26-27—Annual meeting of Aerospace Industries Association and its trade association, Hotel New Yorker, New York.

May 28-29—Western Metal Congress and Trade Show, Los Angeles, Calif., with a tour of the Western Mining Center, Anderton, Los Angeles, Calif.

May 29-30—1947 AIRPORT DIRECTOR'S MEETING, Boston, Mass.

May 30-June 1—Annual meeting of National Association of Broadcasters, Chicago, Ill.

May 31-June 1—Annual meeting of Aerospace Industries Association and its trade association, Hotel New Yorker, New York.

June 1-2—Western Metal Congress and Trade Show, Los Angeles, Calif., with a tour of the Western Mining Center, Anderton, Los Angeles, Calif.

June 1-2—1947 AIRPORT DIRECTOR'S MEETING, Salt Lake City, Utah.

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Aug. 1-2—First Annual Southern California International Air Show, Long Beach.

July 10-12—1947 North Pacific regional air marshals meeting, Seattle, Wash.

Aug. 16—Philadelphia Aerospace Institute, Franklin, Pennsylvania.

Sept. 2-3—"Gulf Coast" Air Show, Galveston, Texas.

Sept. 2-3—1947 National Electrical Conference, Standard Hotel, Hotel Penn, Chicago.

PICTURE CREDITS

11—Courtesy, L. Wright Aeronautical Corp.; 12-13—Courtesy Defense Dept.; 14—U.S.A.F. Government.



This is a secreted photograph of the first jet plane to exceed the speed of sound.

TWICE THE SPEED OF SOUND

► A small-scale model of a ram jet "sled" is mounted in Wright's supersonic wind tunnel. As the airflow increases from 2000 to 6000 fpm, through the tunnel, shock waves appear—an optical instrument—across the photograph, the influence of the jet's head flow upon the flow pattern of the air. The oblique lines in picture represent shock waves created in a map of body air flow.

► This airflow pattern provides valuable air data for the phenomena of compressibility—a condition that exists at the speed attained in jet and rocket-propelled aircraft and guided missiles.

► From these Wind-tunnel experiments can determine the most efficient planform shapes for compact and efficient jet aircraft at supersonic power planes.

► Another example of the integrated research that enables Wright Aeroautical to provide better power plants for the aviation industry.



POWER FOR AIR PROGRESS

WRIGHT

Aerospace Division • Wood-Ridge, New Jersey

1948
Year in Review
Year in Review

INDUSTRY OBSERVER

► Two experimental models of Chance Vought's Corsair (XP7U-1) have been flown at Patuxent, Md., to the Vought Dallas plant in the first cross-country flight of the surprising, night New carrier fighter. Stage was made at Somers, S. C., Montgomery, Ala., and Shreveport, La. Bill Miller and Bob Hall, Chance Vought test pilots, flew the planes.

► Vought plant in Dallas is installing state-of-the-art equipment in the 30 service test models of the F4U-11 now being manufactured in Dallas. First of the 30 planes is expected to roll off the Dallas line this month.

► Boeing plans two final assembly lines at its Renton plant for accelerated delivery of C-97 Stratofreighters to the Air Force. Renton employees will be increased to 1,600 by Mar. 1 when the assembly lines are expected to begin operations.

► Air Force and Convair have not yet decided what model jet engines will be used along the wings of the Convair XB-46 36-46 production single-motor power for the last. Pratt & Whitney Wasp Major 35B hp engine initially used. Allison J-35 and J-36 36 hp are currently being considered. The General Electric J-47 is also a possibility. It is not clear why the Allison J-35 is favored at the moment, as was recently reported in some publications. The proposed XB-46 undergoing jet tailfin tests, similar to those on the Boeing XB-47, impose an axial flow engine for streamlining purposes.

► Navy Squadron VR-8 of MAME Is led experiments on the Berlin airship during December by delivering 6574 tons of cargo. This was 1444 tons above the squadron's assigned quota and set a new record for airship aeronautics efficiency. VR-8 set an airship record with 43 trips per plane during a 24 hr period on Dec. 16. The squadron made 91 round-trips to Berlin carrying full loads in its C-54s to and from the Heidecker airfield.

► Aviation Maintenance Corp., Van Nuys, Calif., may be the production agency of Bausen Aircraft Corp. in construction of the latter's twin-pusher four-passenger light transport, the Bausen "Brigadier." Bausen's previous plan to manufacture it at Santa Barbara under a new \$2.5 million corporation, Bausen Aviation Inc., has been abandoned. Expected modification of the successfully flown prototype Brigadier is under way at AMCO's shops, and a little time still exists to obtain certification for CAA testing. J. B. Bausen, company president, anticipates first delivery of the plane before the end of the year. Plans call for annual production run of five aircraft which probably will be priced at \$72,500 each.

► A transonic engine originally designed for the Lockheed Little Digger, and credited with 52 hp for takeoff in new designation for an air-to-sea market place being developed as a spare-time hobby by Lt Col. M. D. Willis, long-range weather pilot at Tinker Field, Okla. M. C. He is also using the Little Digger's wheel, cockpit, like the engine, from surplus after the Lockheed design project was shelved.

► USAF will get prototypes of at least two B-50 models, interceptors/dive bombers, from the Lockheed F-94 and the Republic F-91 air weapon complements. Convair's F-93 project already has one developmental model flying at MacIntosh where the F-90 and F-90 are scheduled to make their initial flights under a heavy Macket of secrecy.

► State rate regulation panel put out that compensation not power is apt to be the limiting factor on B-50 speed. USAF and Convair are attempting to increase the present 556 mph maximum free air speed at 40,000 ft in the RB-50 by adding four jet engines to the aircraft via Westinghouse. Since the F-96 design has a limitation of Mach .70 which is .98 mach at altitudes above 35,000 ft, the state rate experts believe it may not be able to operate the giant bomber faster than 450 mph at its breaking altitude.

NEWS DIGEST

Big 5 Ask \$1 Fare Rise

An spokesman by the five major airlines by agreement of the five firms in the Big 5 was filed with CAA in April, approved last week. Eastern, American, Northwest, TWA and United specified no effective date but then announced they would file appropriate tariffs shortly. The move will be made "provided similar action is taken by other companies serving at competitive points." Proportionate increases will be made on round trip fares and other fares which are presently subject to specific discounts, the agreement stated.

DOMESTIC

Dr. George J. Meahl, co-founder of Pratt & Whitney Aircraft Co. (now a division of United Aircraft Corp.), died at his home in West Hartford, Conn., after a long illness. He was 87. He was designer, in 1923, of the first Wasp engine. He retired in 1949 as vice-president and general manager of United.

Piper Aircraft Corp. will assume a strong bid for a larger segment of the personal aircraft market. Feb. 3, when the new 3515B PA-16 Piper Cheyenne II twin piston four-place aircraft, is introduced at a national distributor meeting. Powered with a 115-hp Lycoming engine, the plane is in some respects similar to the in-place Twin Comanche which Piper will continue to make. Performance quoted: 112 mph cruising speed with 400 miles range, 50 mph standing speed, 125 mph top speed, 600 ft/min. rate of climb.

Part of New York Authority will release savings New York City annual domestic air passenger fare on the route of Newark-Boston in the months ahead, said one New York State Supreme Court Judge Thomas J. Coff, ordered to assist an out-of-court settlement.

FINANCIAL

Beechcraft Corp. reports consolidated net income for fiscal year ended Sept. 30, 1948, of \$11,230,742, or sales totaling \$162,493,667. Sales of automotive products accounted for about \$50 million of the total, with no figure released for aircraft sales. Building at the fiscal year end was \$162 million, including engineering projects.

Texas Engineering & Mfg. Co. is a preference stock issuer, disclosed 1948 sales of about \$5.5 million. Net income was \$175,691, or 3.1% of issue.

Wright Aeronautical Co. reported a Cross-Country Exchange loss for the year ended Sept. 30, 1948, of \$115,618, against a loss of \$379,085 in the previous year. Company now is engaged primarily in non-aircraft manufacture.

Vol. 50 No. 3

AVIATION WEEK

January 31, 1949

Safety Office Focus of New CAA Changes

Two present officials both claim to have been promised job when Marriott leaves.

By Alexander McBurn

An increasing shadow on CAA's Office of Aviation Safety has won some of the latest developments in the big federal agency's reorganization which has kept 17,000 employees on the edge of their seats for the last six months.

At risk, however, assistant administrator-in-charge of the office and E. S. Hensley, who remained as deputy safety administrator after Koch's transfer last October, was both awaiting the return of Administrator Del Bentzel from Montreal to see which one would get the job short of being reappointed by Koch.

► **Marshall Powers-Marratt.** The character and the authority given to the man now powers, he is selected. Administrators planned that he would return to the Big West Coast assignment with no more CAA administration, but has assumed his duties in Washington temporarily as a special assistant to Koch in the final stages of the reorganization.

Observers here wish weighed effects of two forthcoming subtitle studies on the proposed determination of CAA for whom Marratt has been the joint director.

► **Rising Powers.** Rising postal agency demonstration to an extent which would put the bulk of CAA regulation power in the hands of the regional offices, followed a mail check in Washington which had been made in early October by the aviation industry, including representation of manufacturers, distribution administrators, state and field relatives, and pilots.

New claims on CAA's jurisdiction were to be gone by a management study work by a New York firm under CAA contract, and by a special House Committee CAA report, a first draft of which has already been submitted. ► **Bentzel to Come.** Donald Nygran, assistant to Bentzel, and last week that Bentzel planned to announce his decision on the Aviation Safety appointment on his return from Canada later this week. He said Bentzel was considering additional names or addition to those of Koch and Hensley as successor to Marratt.

Koch told his old subordinates that Marratt had given him to understand that he would probably be appointed. But Hensley, the same group included, told the same group including Koch, that Nygran was recommended as successor to Marratt, personally with Bentzel's agreement. Hensley said the appointment was to have been delayed through Civil Service Bureau until Bentzel left it to go to Marratt for an ICAO conference. But that schedule was not met, apparently because Bentzel left a day earlier than he had planned.

► **Management Report.** Nygran had that one report, concerned with relatively unimportant details had already been made to CAA by the New York management study group. Another was issued on Feb. 1 and that a final version would be presented next week.

A checkup of the results of the Ray and CAA reorganization since it was first announced in September 1947 disclosed since progress, Bentzel, announced Oct. 1 that Koch would be transferred that the Office of Aviation Information would be designated to become part of a new aviation development office and that the Office of Field Operations, headed by Howard Bright, would be abolished, presumably at part of Marratt's reorganization plan.

► **State Returns.** Since that time the Office of Aviation Information has been renamed in its new role, independent status with the state, the State Howard Bright has been named assistant administrator in charge of state and field relatives, and two other Koch or Hensley staff to head Aviation Safety.

Both have been made up to senior management levels by a New York firm under CAA contract, and by a special House Committee CAA report, a first draft of which has already been submitted. ► **Bentzel to Come.** Donald Nygran, assistant to Bentzel, and last week that Bentzel planned to announce his decision on the Aviation Safety appointment on his return from Canada later this week. He said Bentzel was considering additional names or addition to those of Koch and Hensley as successor to Marratt.

► **UPMA Blast.** Most outspoken criticism of the CAA reorganization thus far has been the blast aimed at Bentzel in the January newsletter of United Pilots & Mechanics Assn.

It is no secret that within the last two months the morale of CAA employees has reached an all time low due to lack of confidence in the methods by which Administrator Bentzel and his henchmen have set out to manage the Washington office," the UPMA letter asserted.

► **New Policies.** The newsletter related to Bentzel as "a 'passionate advocate' in complete decentralization of CAA and to the slogan and ideal 'Adoption of the policy espoused by Marratt will result in establishment of different policies in each of the nine CAA regions and Washington will be powerless to control them.'

The newsletter also criticized an alleged attempt of the administrator to obtain cost requirements for a two-engine pilot rating free ride to U.S. stations in CAA planes, the proposed practice of the Airline, OGH pilot training base from American Airlines and Bentzel's recent trip to London and his suggestion about radio ranges which had been sold to the British by Aeromaritime Radio, Inc., Bentzel's favorite airline.

► **Over-Regulation.** — A recent Air Line Pilot Assn. publication attacked proposed "objection" regulations for the industry and discussed the "grave question of over-regulating the CAA."

"Does the new CAA planning contemplate that what RITA believes air safety regulations that comes after the objective regulations, will be applied, and to such a degree that the right hand will not know what the left hand is doing?" Apparently it's already being proposed," the ALPA letter said.

Navy '48 Report Presented by Sullivan

Navy took delivery of 945 piloted aircraft and 733 piloted gliders during fiscal 1948, according to Navy Secretary John L. Sullivan. In his annual report for that period, Navy says it has 7775 piloted aircraft on order under contracts authorized in fiscal 1948 and 1949 budgets.

Among the goals of Naval Aviation research, Sullivan listed the following priority:

► **High Speed Propeller.** Definitely planned, this has made considerable progress.

propulsion for "super-powered" high speed aircraft.

► **Aircraft Armor**—Pavlovic states he is placing on the horizon of jet aircraft to reduce effects of battle damage. Use of composite materials as a source of armor for aircraft and development of a fiber-optic body sensor for systems are being investigated.

► **Pylon Design**—Navy is exploring the best possible shape for external storage containers or armament for stems such as droppable gas tanks, munitions, etc.

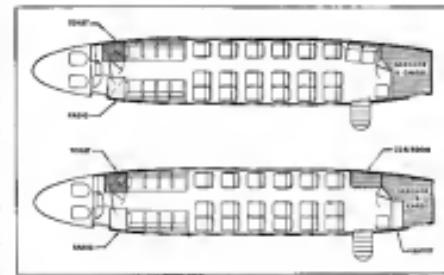
► **Tactics**—Navy has conducted a study of the effects of new flight speeds on air tactics including firing range, angles of possible attack, maneuverability and maneuvering requirements for high speed fighters and bombers.

► **New Materials**—Sullivan reported substantial progress in use of titanium and magnesium in aircraft, heat and impact resistant aircraft finishes, and more flameable hydrocarbon fuel.

► **Automatic Control**—Sullivan pointed out that aircraft speeds can now be matched to mission requirements as an option in our rear labs. It may be feasible to decentralize. Decentralization in the field is now seen as increased use of automatic methods of control.

During the 1948 fiscal year the Navy centralized 3640 aircraft and 535 aircraft into one Super DC-3 were mounted last week by Donald W. Douglas at Santa Monica.

The Super DC-3 will feature a cruising speed of 155 mph., 25 passenger capacity, gross weight of 27,000 lb., and a direct operating cost of 1.25 cents per seat-mile with a 100 percent load factor.



Douglas Describes 'Super DC-3'

Higher cruising speed, increased seating capacity and major structural changes feature modernization plans.

Details on the Douglas Aircraft Co. proposal to modernize the DC-3 are presented in the following:

and 1.75 cents per seat-mile with 20 passenger load.

► **Structural Changes**—Structurally the Super DC-3 will feature a new wing and empennage, increased engine power, improved landing gear, landing methods and reduced drag through fully reversible leading edge flaps.

Details on the structural changes in the Super DC-3 include the following:

Super DC-3

Dimensions	
Span	93 ft
Length	64 ft. 7 1/2 in
Wing area	970 sq ft
Fuselage width	8 ft 6 in
Main landing gear track (wing side)	7 ft 6 in
Weights	
Gross weight	27,140 lb
Max gross landing	26,600 lb
Operating empty	19,991 lb
Standard payload	19,475 lb
Cargo capacity	16,000 lb
Performance (estimated performance of 26,900 lb. as modified)	
Level flight speed with 87% S/L, rated power (1781 HP/RP) +	
At 9000 ft	240 mph
At 10,000 ft	181 mph
Level flight speed with 80% S/L, rated power (1781 HP/RP) +	172 mph
Climb rate	
At S.L.	3440 ft/min
At 5000 ft, gross weight of 26,000 lb.	4814 ft/min
CDA loading field length, gross weight of 26,000 lb.	6000 ft
At S.L.	4130 ft
At 5000 ft	5600 ft
Two-engine rate of climb at S.L. and rated power	26,600 ft/min
Two-engine service ceiling with rated power	26,600 ft
One-engine rate of climb at S.L. and rated power	11,800 ft

► **Costs**—Compared to the Super DC-3 is aimed at solving the airline's airline equipment replacement problem for wireless transports. According to Douglass, the Super DC-3 will have a cruising speed roughly comparable to CAA Directives on the DC-3. Costs later and Martin 2-27. If well done the aircraft an estimated \$150,000 per plane for the Super DC-3 as against approximately \$200,000 apiece for long-range transports on the market.

Douglas figures show a direct operating cost of 2.90 cents per seat-mile for a typical 40 passenger transport.¹

¹ Comprised of crew, trapped fuel and oil, passenger equipment and fuel operating costs.

► **New Wing Panel**—Strophak and twist have been incorporated in the outer rear wing panel. These panels are removable and can be replaced quickly. Wing is swept back about 4 degrees in contrast to the almost straight trailing edge of the original DC-3. Cabin rear wing flap has been extended 14 inches into the outer rear panel. All wings are equipped with glaze ribs in both sides.

► **Revised Tail**—Tail and spine of both horizontal and vertical tail surfaces have been modified to meet increased drag loads.

► **New Engines**—Choice of either Pratt & Whitney R-2000 or Wright Cyclone R-1820-C-44B engines are offered. Weight of the Super DC-3 is increased 650 lb. by the R-2000 engine installation, but since aircraft pushes its nose down as the nose regresses on the DC-3 it would move this nose up, and nose-in is unnecessary. In addition, in the engine change the Super DC-3 has DC-3 low exhaust stacks with electrically operated cowls flaps and a choice of oil cooler ventilation.

► **Landing Gear**—Main wheels of landing gear are now fully extracted via integral needles. Wheel well doors have been altered to receive the two wheel doors installed parallel. The tire wheel is now 100 percent larger, further reducing higher ground loadings between main and trailing gear struts due to 7 percent increase in wheel diameter.

► **New Landing Methods**—Integrated landing step is built into the Super DC-3 cabin floor. Turret cargo compartment which required high landing loads has been eliminated in favor of a cargo compartment at stern end behind the radio room. Baggage stored in this compartment is easily available to passengers in this position.

► **Increased Passenger Capacity**—Virtually all interior seating arrangements is altered ranging from 20 to 28 passengers. Two four passenger divans are featured in the 28 passenger layout while cargo compartments are increased to 16,000 lb. of standard versus 10,000 lb. of standard load and twice off of the cabin as compared to the enlarged cargo and baggage compartments.

► **Costs Compared**—The Super DC-3 is aimed at solving the airline's airline equipment replacement problem for wireless transports. According to Douglass, the Super DC-3 will have a cruising speed roughly comparable to CAA Directives on the DC-3. Costs later and Martin 2-27. If well done the aircraft an estimated \$150,000 per plane for the Super DC-3 as against approximately \$200,000 apiece for long-range transports on the market.

Douglas figures show a direct operating cost of 2.90 cents per seat-mile for a typical 40 passenger transport.¹

Congressional Scoreboard

Following aviation bills were introduced in Congress last week:

► **Aviation Transportation**—Legislation which would channel government transportation between railroads and airways was introduced by Rep. John G. Diefenbach (D., Calif.) chairman of the House Interstate and Foreign Commerce Committee. The bill would authorize the government to transport personnel and cargo by air, but only on routes which are holding public importance and economy.

► **National Defense Establishment**—Would be reorganized under a MI prepared by Sen. Wayne Morse (D., Ore.). Under the Senate of Defense would be an order secretary and three assistant secretaries for Army, Navy and Air Force.

► **McGinnis Act**—For defense would be reorganized under a bill by Sen. Millard Tydings (D., Md.), chairman of the Senate Armed Services Committee. Similar legislation was previously introduced by Rep. John C. Stennis (D., Miss.) chairman of the House Interstate and Foreign Commerce Committee.

► **Capital Airport**—A new airport in the vicinity of the District of Columbia would be authorized by a bill by Johnson.

► **Uniform Federal Regulation**—Of all existing regulations, inspection, testing and licensing would be delegated to private industry under a measure by Johnson.

► **State Enforcement**—Of federal air safety regulations is provided for in a measure by Stennis.

► **McKellar Bill**—Of all first class and air or by express delivery would be required to pay a fee under a measure introduced by Brewster.

► **Board of Postal Rates**—For rates and surcharges in air mail sufficient revenue to meet fast mail carrying costs, would be authorized by a bill by Rep. John C. Stennis (D., Miss.).

► **Chairman Interim Legislation**—Including a consolidated measure of all transportation interests to consolidate all railroads and air carriers was sponsored by Brewster and McCains.

► **Senate Act**—The bill would be opened for stockholders' campaign as well as a confidence vote on a bill by Capert.

► **Multiple Tenure**—Of air mailers would be removed by a measure by Brewster.

► **Transportation Tax**—GH 18 present on aircraft and property would be removed by a measure by Rep. Fred Shultz (D., N.Y.).

► **Overall Facilities**—Of great interest to airports and maintenance interests reported a Senate bill by Brewster.

► **Counter Cancer Investigation**—A thorough investigation of all laws and regulations relating to cancer to contract operations, to improve or refine, is proposed in a measure by Rep. John McGovern (D., Conn.).

► **Private Flying Airports**—A "national" private flying airport would be created if a bill by Brewster is adopted. The bill is reported in a measure by Rep. Karl Stach (D., N.H.).

► **CAB Delays**—Of authority, to speed up Board of Appeals is authorized in a measure by Johnson.

British Seek B-29s

From USAF Storage

British are interested in acquiring approximately 150 Boeing B-29 Super Fortresses from U.S. Air Force storage pools, according to London reports.

U.S. Air Force had no official confirmation of the British request but work informed Washington sources and the proposed B-29 deal would be part of the foreign military aid programs under the proposed North Atlantic Defense Fund. President Truman has indicated he will submit the past year for Senate approval.

Indicates also that the British B-29 program included just as much of the shifting of code North Atlantic countries detailed words for evidence. A French Air force has recently in this country for a similar purpose. Neither the French nor British programs can be implemented until the North Atlantic pact gets Senate approval.

USAF has some 160 B-29s in ten parity storage units another 100 on operational status (400 in use with the other 400 in an operational status).

against 175 cents for a Super DC-3. This is with a 20 passenger load.

With full load the direct cost is 128 cents for the typical 40 passenger transport; 175 cents for the regular DC-3 and 162 cents for the regional DC-3. The regional DC-3 would be Douglas' at 27 cents per plane-mile for the Super DC-3 against 45 cents for the typical 40-passenger transport. □

The 401 DC-3s currently in service are now operating at 1st DC, is comprised with 503 a year ago. Regular DC-3s targeted for obsolescence in 1952.

Douglas recently converted the aircraft on their interest in the Super DC-3 project but has not yet announced any firm orders for the changes. Rollout of the modification will, however, be done at the Douglas Santa Monica plant.

WAA Has Chance For New Life

War Assets Administrator, which still has surplus aircraft equipment with an original value of nearly \$400 million has a good chance to get a Congressional reprieve from the expirations of the agency's scheduled Feb. 25.

Two factors pointing strongly in the direction:

► President Truman's budget message which asked Congress to transfer remaining functions of WAA to a central programs management agency. (It is believed an extension will be necessary to allow time for drafting legislation setting up such a new agency.)

► Department of Defense's desire to get out from under the job of handling the surplus aircraft and components, and Air Force Secretary Sungren has

asked Congress to relieve Air Force of this task before it gets to him.

The President's budget message listed proposed some 300 programs to be reduced by 1948. 57,100,000,000 is set aside for surplus aircraft and surplus 5400 100-ton aircraft or aircraft components. Original cost total and a small number of aircraft total at \$24,497,000 (original cost value).

Under terms of the 1949 Supplementary Independent Office Appropriations Act, abolishing WAA as of Sept. 26, the surplus air property would be taken over by Reconstruction Finance Corp. and the surplus aircraft property by the Department of Air Force for disposal.

Senator Stratton's annual report last week warned that USAF's program of aircraft disposal and sale would be by the "severest and least of handling conceivable." He pointed out that a deficiency appropriation for the new law would entail preparing budgetary requirements increasing the already heavy workload of the Air Force Comptroller and the Air Materiel Command. He urged Congressional action before Feb. 28 to stop the impending disaster.

Stratton's actions in this direction, pending legislation creating the central supply management agency called by the President, would be, in estimation of the USAF, for 90 days at an estimated cost of \$100,000,000. This amount could be cut to \$20 million if Congress can't come to a compromise with the Air Force department planners. Both such an extension is likely.

Department of Air Force does here to take over the surplus aircraft

disposal problem, however. Letters and telephone messages have already been sent to Air Materiel Command to War Assets Administration agents. They are:

- Continue to dispose of surplus aircraft and aircraft parts as rapidly and efficiently as is practical.
- Utilize services of agents currently in effect.
- Draw new contracts with all approved agents effective Mar. 1, resulting in early handling of all remaining aircraft inventory under old contracts.
- War Assets Disposal division, Air Materiel Command, Wright Field, Dayton, Ohio, will handle the opening of disposal procedures according to general policies established at USAF headquarters, Washington.

Col. John G. McClosky is chief of AFSC's War Assets Disposal division.

Mahon Named

Rep. George Mahon (D., Tex.) was named chairman of the House Armed Services Appropriations subcommittee which will have a major role in drafting Air Force funds this year.

"Mahon vigorously supported funds for a 70 Group USAF program last year and told AirForce Week that he has had no change of mind on the matter," AirForce Week, Jan. 26.

Others named to the subcommittee were: Rep. Harry Shapley (D., Calif.); Rep. Robert Sikes (D., Fla.); Rep. Alben W. Barkley (D., Ky.); Rep. Charles Parnell (R., Vt.).

Williams Crash

U. Williams, Gulf Oil aviation manager and former Army pilot, evaded his new Grumman P-51 "Gulfhawk" and safely wrote himself from the flaming wreckage last week. The crash was at Sarasota-Kroft Airport, New Bern, N.C. On his way south after he had visited the plane at Miami Air Shows, he

ENGINEERING



John K. Northrop presents American Honorary Fellowship to Clark Millikan.



William A. M. Barlow makes his inaugural speech as new president of the Institute.



Miss Louise S. Katz, MAFS commander, addresses Silver Night dinner.

I.A.S. Meeting Accents Aviation Progress

Wide variety of subjects covered in 17th annual session; plans for future outlined.

In one of the most elaborate annual meetings ever held of aviation's programs and control status, the Institute of the Aeronautical Sciences last week in New York held the four days of its 17th annual meeting to illustrate how the aeronautical engineer's field of inquiry has broadened.

From Monday morning until nearly midnight Thursday—with time off for between sessions and two formal dinners—1,500 engineers and others in the field of aircraft design, materials, instrumentation, flight mechanics, aircraft noise reduction, wing strength to known engineering Speciaiists, aircraft wind tunnels, aircraft dynamics and liquid oxygen storage for aircraft. See page 162.

► Scope Expanded.—The widest area of investigation necessary in aerodynamics is illustrated by some of the organizations that joined IAS in the program. The American Meteorological Society, the American Physical Society and the Institute of Navigation. The opening sessions, on writing, wing strength, was sponsored jointly by the Institute and the American Meteorological Society.

The variety of subjects now involved is represented by one more IAS committee to increase its activities greatly this year, according to Director E. Paul Johnston. Another spur to activity is

the growing number of local sections throughout the U.S. and Canada.

► Fellowships Awarded.—At the Silver Night dinner, outgoing President John K. Northrop, president of Northrop Aircraft Inc., cited other Institutes for flights. On Mar. 25, IAS will hold joint meeting with the Royal Astronomical Society of Great Britain in New York City, a follow-up to the joint meeting at which the British organization played host to more than 1,000 London and San Diego, and IAS hopes to open its new buildings in Los Angeles and San Diego.

As one of his last acts as retiring IAS president, Northrop presented first of the institute's annual awards and the two Rossmoyr Fellowships and one Fellowship (AirForce Week, Jan. 26). Two other IAS honors, the Thomas H. Stone Award and Defense Contract Award, were presented last summer at the IAS Annual meeting. It is expected that these two awards, which usually have been presented at the Winter Night dinner, another will be made in the spring.

► Books.—Journal—Only one of the Rossmoyr Fellowships Club, B. Miller, acting director, Geophysical Research Laboratory, California Institute of

Technology, was present at the dinner. The other, the Foreign Economic Fellowships, J. L. Lawrence, present, secretary of the Royal Astronomical Society, Northrop, stated that no less than two Rossmoyr Fellowships—one American, the other foreign—was to be elected in any one year. They are chosen by the British, now numbering 752, Northrop said, out of a total IAS membership of about 7,000.

At the conclusion of the Winter Night dinner William A. M. Barlow, former Assistant Secretary of Commerce for Air, took office as the new president.

During the course of the usual presentation Dr. W. Randolph Lovelace II, head of the section of physiology, Lavoie Clinic, and director of the Dr. Jeffries Award, announced that for the first time flight surgeons are ahead of aircraft designers. He said that researchers had perfected equipment making it possible for a pilot to withstand a negative force of 1 G. But patient fighter planes, he declared, are built to take a negative force of only 1 G.

Weather No Bar To Airlift Operation

All-weather flying apparently has been adopted as the Berlin will and there is no longer any relation between weather and the bombing got down, se-



EASY-TO-READ ALTIMETER

over to the former type of altimeter flight. The photo below illustrates an example of this instrument. The scale markings are registered 10,000 ft. As you'll observe, the scale markings are in thousands of feet. This is the latest development of the last design of the original design.

Correction

In those carrying the table on Armed Military Plane Orders that appeared in AirForce Week, Jan. 26:

The table showed 187 Bell Aircraft Corp.'s order for 100 FTF-Navs (Hawker) at \$5.2 million in total of \$8 million. The German order for 39 RB-50s should be \$270 million instead of \$206 million bringing the total to \$111 million.

Aviation Week regrets these typographical errors.

ending to New York Lazarus & Kahn, contractors, Midtown, Apr. 1, 1969. Seven (He gives name of the credit to the "remained" traffic control panel) were employed.

Kates last work held panels at the JAS Illinois Night shows at the Hotel Astor in New York City. That CAA is a key factor in the traffic control system, and that it is working "about five times as rapidly as it has ever done before." On Jan. 14 he, and plane were landing at Dallas in intervals of 50 seconds, around the clock for 24 hours.

► **Control Advanced.**—The MATS crew member John F. Gammie, Captain, Civil Aviation, and his safety experts, are designing their Vitter "that encompasses the art of traffic control systems." According to Gammie, Vitter concluded that the control of traffic control over the world "could easily be applied as New York, Washington or Chicago or individually without severely affecting the new private aircraft."

To look up the claim that neither no longer attached to flight training, Kates pointed out the rise in usage since the great November fog crippled all transport in the Western U.S. of Germany. In the seven days plane had put down 57,500 tons, a daily average of more than 8000 tons. The daily increment was 5000 tons.

► **Conclusion.**—Traveling Operations Ventures "in every aspect the greatest air transport operation the world has yet seen," Kates drew these conclusions: "It is worth while to consider that the progressive overhead (cycle round) tonnage and Vitter planes should be applied to the nation's fleet of large transport commercial and military."

► Strategic airlift, which will be vital in war, demands great increases in development of a great national fleet of large transports and resources. "Without this," MATS would be helpless in time of war.

A speed of about 250 mph "is set forth as a goal in the earliest and most of selected papers," says Dr. Vitter. In them at first and subsequent panels it is important, I think, not to trouble this employer an speed to the field of air transport, where it is in fact a secondary consideration.

Vitter has "understood the rapid trend of integration." Air Force and Navy are working as a team on the air lift and if they had been separately served the development would have been a minor hindrance. "Today Air Force and Navy crews never discuss anything but Vitter at our school. Their logistic support comes to them through one channel over one air route, in places of their own convenience."

► Because of the ability "anywhere less far less time" before that can do anything can be moved anywhere by air."

Synthetic Aircraft* Now Being Built

A synthetic aircraft that can duplicate exactly the flight characteristics of a prototype before the prototype is built is moving completion. Adv. Luis A. Flores, USAF (ret.) detailed in a paper prepared for meeting last week at the 17th annual meeting of JAS.

De Flener, writing head of the Navy Bureau of Aeronautics Special Devices Center, said the new project is carrying one step further what previously done in replicating an aircraft's motion in simulation of flying without motion.

As an example of what is being done, he cited a navigation experiment with a flight simulator, the TBAY.

► **Change Conforms.**—The electronic equipment working on the trainer advised de Flener that the theoretical aircraft was unstable. They made adjustments to obtain stability and then de Flener found out that the TBAY prototype, after being flight tested, was obviously unstable. Changes that were made in the prototype to produce stability involved the fin area compensated exactly to the changes in the aircraft in order to give smooth control stability in the future.

The current project which de Flener did not identify, which parts that transfer construction of the prototype. Of the nature of the training is basic and cost of engineering generally found necessary in flight testing a prototype de Flener estimates that construction of the prototype aircraft plus the parts a prototype would be cheaper than construction and testing of the prototype alone.

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ROTATING WING AIRCRAFT

McDonald Range Helicopters' Charles R. Ward is Chief Test Pilot and Managing Director, Contests. Mr. Donald Arnold Corp.

The basic requirements were most difficult in respect displacement flight tests conducted at a flat airport, given first test operations at ground

fuel supply to fully controlled free-flight for qualitative checks of performance and handling characteristics. Development of six or type model rotor progres- sive in accordance with Air Materiel Command rates, two configurations of pitch rate ratios have been developed.

Method for Improving Inherent Stability and Control Characteristics of Helicopters—R. H. Miller, Associate Professor of Aerospace Engineering, Massachusetts Institute of Technology.

Problems of control control and stability is examined to establish whether aerodynamic inherent characteristics may be adjusted without major design modifications and without the introduction of pilot devices.

Possibility exists of improving both damping and static stability of hovering helicopter by arbitrary minor modification of blade mass and aerodynamic characteristics together with use of sponge and foams in control system. This should give improved blade damping characteristics and substantiate necessary control sensitivity without introducing massiveness.

Control characteristics of such rotor with stabilized solar-rafts are evaluated from transient response characteristics in respect control manipulation.

INSTRUMENTS

Automatic, Self-Powered, Quad-Pulse-Sensing Integrator for Liquid Oxygen—W. A. Wilfert and D. S. Carlson, National Bureau of Standards.

Believe advantages of liquid oxygen and expansion (conversion) for inertial use are analyzed together with theory of relay cycle for parameters and design details of converter built on the principle of the Navy Bureau of Aeronautics.

Converting oxygen to nitrogen requires 16 times as much heat as is required to decompose oxygen at room temperature and gas is delivered as demand at up to 100 lpm, warmed to within 2 deg. C. of ambient temperature. If temperature requirements are not stringent flows of 1500 lpm are obtained. Pressure is maintained between 1000 and 1500 lpm.

Nex High Performance Engine Indicator of strain Gage Type—C. S. Dugay, Director of Instrumentation Laboratories, and S. T. L. Research Associate in Aerodynamics, Locomotive, Aerodynamics, and Materials, Institute of Technology.

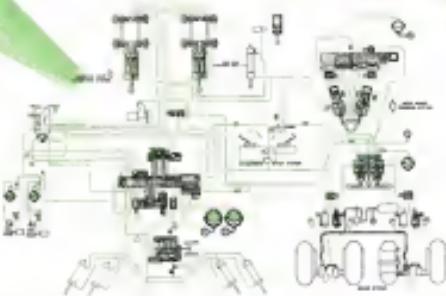
Holding a strain gage calibration in jet, has the advantage effects occurring during a test run foribration and test data are not lost. This paper gives details of very precise, reliable using high flexibility calibration technique and less dependent on compliance with gauge and transducer and transducer with transducer and transducer with transducer and transducer gradients for precise data and higher resolution.

► **Conclusion.**—Traveling Operations Ventures "in every aspect the greatest air transport operation the world has yet seen," Kates drew these conclusions:

"It is worth while to consider that the progressive overhead (cycle round) tonnage and Vitter planes should be applied to the nation's fleet of large transport commercial and military."

TESTS PROVE

SGD



This diagram shows a cross-section of the hydraulic system of a SGD.

SKYDROL SUPERIOR HYDRAULIC FLUID



Skydrol is a new, non-flammable hydraulic fluid developed by the joint research of Monsanto Chemical Company and Douglas Aircraft Corporation. It has been extensively tested and proved to be a superior pressure transfer medium that gives extra safety, extra performance and extra economy. It is profitable now for aircraft manufacturers. Read what the tests prove. Compare Skydrol with any other hydraulic fluid. Write or mail the coupon for complete information... today.



DOES NOT IGNITE when exposed to temperatures up to 180° F. Extra safety. Skips in ignition of hydraulic lines.



STABLE in heat, pressure and vibration. Doesn't thicken even after long, hard service. Skips severely no loss of fire strength, volume or viscosity.



DOES NOT BURN when exposed to temperatures of parts circulating in hydraulic lines.

IRON-CORROSION-FREE. Does not harm any metal used in hydraulic systems. Saves economy from trouble-free operation.



IMPROVED LUBRICANT for moving parts of spars, Pumps live more than twice as long as with ordinary petroleum hydraulic fluids. Increased lubrication & less bearing wear results longer part service longer.



PROP-DRIVE either as fuel or for oil. Handles it all and maintains its power. Free from smoke, the special handling and storage problems.

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SENDING INQUIRIES TO WHICH BETTER MANUFACTURERS

rate wheeling rate to stop the most quickly after engine shutdown.

Alvin transmission gear ratio is 10.5:1, together with the 1.1:1 ratio of the two main reduction ratios, this gives a total of 11.5:1 between engine and road wheels. The ratio between engine and road wheels is also used to engage, and disengage, the road wheel brakes, and to speed up assembly by regulation of amputated landing gear gear in the most straightforward manner.

Lubrication for road and main transmissions are separate from the engine/transmission system. Gearbox oil quantity is checked, and refilling is assisted by position of road transmission cooling motor on the tail.

More transmission lubrication is by oil pumped from tank tail, the pump is driven by the transmission shaft and so gives full pressure lubrication during acceleration.

The gearbox includes a high capacity selector, mounted on the side of the engine cooling air induction ring.

Hence there are four gears, neutral, forward and reverse, and two main transmission ratios to facilitate ground and flight lubrication. Motors are driven only during taxi with the engine flange welded at the bottom and a main take off and landing drive welded at the top.

* Avionics—Bacchus is a welded classroom-style steel housing. Layout of the center section allows removal of the harnesses sans without disturbing the engine.

Instruments located at the center section are supported by a platform, and are readily accessible.

A standard engine mount ring, integral with the center section, aids fire fuel mounts.

Because the aircraft is so articulated, it is believed that a single-pump system will be insufficient to overcome the gross weight of the craft (about 2,950 to 3,600 lb without change in structure, or components). (The Cessna would support a higher horsepower engine but since the power plant now installed exhibits ample reserve power, it is felt that addition of 10 to 20 hp by "swapping" will allow the aircraft to the legal gross weight.)

Many landing gear components are a single-piece. Uni-link tire connectors in the structure by two journal type is trustee. Two torque arms connected to the center section load longrange performance and/or the landing gear cross members.

Main and nose landing gear shock struts are in place. Nose gear is full casting with a retarding device to assure proper wheel position for running boardings.

Production plans for the X-190 call for an annual output of 20 craft. Already, orders for about six of the complete have been received, and additional five of some of these are now being contracted.

Price of the helicopter is scheduled to be \$15,000.

NEW AVIATION PRODUCTS



Screw Test Instrument

Figure 5. Screw Analyzer made by Flight Research Engineering Corp., Redwood, Va., is a general purpose screw test instrument and has measuring dynamic response of dc to 40kc, ac servomechanism servo amplifier, and electronic Dithering and reference voltage for obtaining frequency response as variable function are provided over frequency range of from 1/10 to 6 cps and 1 to 60 cps. Dithering and reference voltage may be changed from reference current. Reference voltage is controlled by varying dc voltage by means of potentiometer. When connected to servosystem under test if provides data only obtainable by lengthy computation or graphical methods.



Utility Compressor

Scalable for small service shop, portable compressor made by DeVilbiss Co., 100 Phillips Ave., Toledo, 1, Ohio, weighs less than 12 lb and can be mounted from wall plug. Unit has high capacity spring gas at 15 lb pressure and delivers smooth continuous flow of air with power and volume triple to apply many materials without excessive thinning. At general utility device, it can be used in handy pressure air supply. Compressor is available separately or with complete spray outfit.



Grooves Sawney Joins

To save time and get better results in airport maintenance work, a high speed aircraft sawing machine is manufactured by G. H. Tenant Co., 2520 N. 2nd St., Minneapolis, Minn. Equipped with specially tempered and hardened, ratio clean, extremely polished groove to allow tight bond with new tubing material. Capacity is reported at about 5,000 to 20,000 ft per hr, speed depending directly on type of concrete size and condition of plane.

width and depth of several cut, local traffic conditions and state of weather. Machine is powered by a 15-hp fan to move Wisconsin gas engine, equipped with self-start, generator and three batteries. Cutting action is via a series of 6-in diagonal metal cutters mounted on heavy steel head revolving at 2,400 rpm. By changing cutter spacing, grooves from 1/8 to 12 in. wide can be cleaned, reground to desired shape near. Depth of cut is about 1/8 in. Weight of machine is about 700 lb.



Here are the 36 places on transport planes where Pesco PRECISION Equipment is used

From since aircraft operation of aircraft mechanics become more precise has been specializing in building fuel and hydraulic equipment for American's commercial and military planes.

From the days of the first hydrostatic transits to today, when you will find Pesco equipment in 26 places on our fleet or losses the design and manufacture of this equipment has been guided by the exacting requirements of the aircraft industry. Because plane performance and human lives have been at stake, there has been no compromise with top quality and performance.

That's why Pesco developed "Precision Loading" for hydraulic pumps, an exclusive patented DESIGN that automatically compensates for wear and maintains highest operating efficiency over a wide range of temperature and altitudes. That's why Pesco designs and builds its own electric motor—so that all Pesco aircraft-driven units are an integral part of the hydraulics or fuel tank, ensuring top operating efficiency. That's why, today, American's leading builders of jet engines have standardized exclusively on Pesco high pressure fuel pump.

Take advantage of this engineering staff and "know-how." All the facilities of Pesco—the largest manufacturer of specialized aircraft fuel and hydraulics in the world are at your service.

KEY TO THE Pesco Precision Equipment Indicated above:

1. Engine driven hydraulic pump.
2. Portable loading pump.
3. Oil transfer pump.
4. Surface caused breaker pump.
5. Electric motor-driven hydraulic pump.
6. Hydraulic pressure relief valves.
7. Hydraulic line couplers.
8. Pressure reducing valve.
9. Regulating pressure valve.
10. Water driven fuel booster pump.
11. Fuel driven pump.
12. Engine driven vacuum pump.
13. Oil separator.
14. Fuel filter.
15. Air pressure relief valve.
16. Diesel Motor for Giddens compressors.
17. Cabin breather fuel pump.





HOW TO INSTALL AN OIL SEAL IN 10 SECONDS FLAT

It can be done—even on an inaccessible shaft like the one pictured here—with a Johns-Manville Clipper Seal. Just three simple steps complete the job:

- (1) Hold the detachable outer spring around the shaft.
- (2) Spread the real seal at the split as shown above, and slide it over the shaft.
- (3) Squeeze the outer spring inside the seal in the real and press the assembly over the shaft.

That's all! Installation is usually a matter of seconds. Clipper "down time" is reduced to a minimum. And you can remove the seal just as quickly and easily...and without damage.

Completely new in principle, Clipper Seals have no metal case. Their rigid belt and soft flexible lip are moulded into a single unit so provide a load of superior lubricant-retaining, oil-excluding qualities. The outer spring allows lip protection, cushioning to more efficient sealing and longer life.

Clipper Seals are made in leak tested and cross checked sizes and are available for shafts up to 60" in diameter. They are recommended for sealing against oil, grease, water, air, gas and exhaust at operating temperatures up to 150° F.

For further information write for brochure
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York, N.Y. New York.



6 REASONS WHY CLIPPER SEALS LAST LONGER—SEAL BETTER

1. Because dimension by itself does not indicate how long a seal will last. Only quality design is important in thermal sealing conditions.

2. Clipper Seals are designed to withstand temperatures up to 150° F. in both cold and hot environments.

3. Every Seal has an insulating belt which provides a better seal and less heat loss.

4. Every Seal has the same temperature resistance as most oil and greases.

5. A choice of seven cataloged lip materials is provided to meet specific service needs.

6. Every Seal is made with a special process that results in less damage to the seal and less wear over time.

Johns-Manville PRODUCTS for the AVIATION INDUSTRY

Packings and Gaskets • Friction Materials • Insulations • Asbestos Textiles
Transite Conduit • Transite Pipe • Industrial Building Materials

PRODUCTION

Sellers Index

Munitions Board issues list to tell producers where services buy.

A new index of military procurement used by the Munitions Board in Washington, D.C., is designed to be a useful tool to assist manufacturers who sell to the Air Force, Navy or Army.

Approximately 20 major products now included in the coordinated procurement program of the three services are listed with authority as to whom military purchasing offices have been assigned responsibility for procurement of such items. These include most of the principal items now purchased by the services.

► For All—In some cases one service buys all there are and in other cases a joint purchasing setup is arranged.

As examples, Air Force buys all photographic equipment, Navy buys all hand tools, and Army buys telecommunication equipment, while Armed Services Petroleum Purchasing Agency buys petroleum oils and aerial and compressor gas, propane, fuel oil, kerosene, motor spirits, gasoline and compounds.

Procurement has been decentralized and assignments in effect as of Jan. 1. An agency to each service was based on assignments reached between service commanders on which all three services were represented. Final decisions came from the procurement policy council, composed of Maj. Gen. E. M. (Pop) Powers, USAF; Brig. Adm. M. L. Ring, Navy, and Maj. Gen. C. V. Ross, Army.

Principal wartime purchasing officer AFPS—Procurement division, Air Materiel Command, Wright-Patterson AFB, Dayton, Ohio.

N-3—Bureau of Ordnance, Navy Department, 10th St. and Constitution Ave., Washington 25, D. C.

N-5—Naval Aviation Supply Office, Geiger Ave. and Marine Mill Road, Pikesville, Md. 21201.

All three of these offices have assignments to procure aircraft engine propellers and air frames.

AMC—Procurement division also purchases aircraft rigging fittings, aircraft wire, aircraft diagnostic equipment, aircraft medical X-ray film, and the Naval Aviation Supply Office purchases thermostats and climate control and electric, including instruments and parts.

Ordnance purchasing offices of AFPS are to acquire conserves and the food stuffs they purchase include

\$634,000, 16 Lockheed T-33Cs for \$40,015,000, 1 Goodyear ZPN markings for \$3,183,000.

Additional subcontractors \$16,122,000 for facades, \$6,166,000 for acoustic electronic equipment, \$9,900,000 for aircraft components, \$1,000,000 for additional spare parts, and \$1,000,000 for a ground station. Allocation of the remaining \$7,701,000 will be announced later.

Canadian Firm Moves

Canadian Car and Foundry Co., Ltd. has moved its aircraft manufacturing assembly plant to a new location in Montreal. It formerly rented leased facilities nearby, but has purchased its own building. George Aircraft Manufacturing Co., a subsidiary, will soon begin operations at Dorval Airport with the release of the "Loudspeaker," a twin-engine cargo aircraft designed by Vincent J. Berardi.

Canadian Car and Foundry is currently overhauling a large number of North American "Harvard" trainers for the Royal Canadian Air Force and will manufacture the "Nanaimo," a large, single-engine cargo aircraft designed by Robert Newell.

Coolers for British

Standard Thomson Corp., Dayton, Ohio has completed negotiations for the manufacture of aluminum oil coolers and radiators for British aircraft and has designated Hawker-Siddeley Aircraft Co. Ltd. as British sales agent and licensee John E. Goldb. Standard Thomson has president and general manager is studying the possibility of building Standard-Thomson plants in either England or Canada to supply cooling and equipment to British aircraft.

Hell Diver Overhaul

Now in existence 288 Coriolis SR205 5 Hell Diver bombers at Naval Air Station Corpus Christi, Tex. A portion of the planes are those withdrawn from storage pools and all planes are being completely disassembled and rebuilt to maximum operational condition. The bombers will be assigned to various squadrons with throughout the country upon completion.

C-46 Overhaul

Globe Central Airport Co., Glendale, Calif., has been awarded a \$2,500,000 Air Force contract for reconditioning 100 C-46s. All 100 aircraft are to be stored in storage at Wright Field, Md. and are scheduled to be ready for the USAF by Sept. 30. Globe Central consolidated contracts on 100 C-46s for the Clinton Air Force test flight.

some Short jetties for airline operators, charter companies, and V.I.P.s

Sea Island Service



The Sealand is chosen

Based on the border of the Caribbean is the key to new territory served by the Sealand. B.W.L.Y., the subsidiary of B.W.A.C., has service and rights over all these islands which fall general status among the West Indies Islands.

They could not have made a better choice.

The Sealand, which is equally happy to land or to fly in the perfect terrain for an air-to-air landing, offers less risk for heavier aircraft.

B.W.A.C.'s new "Sea Island Service," which will operate duty between Trinidad and the Virgin and Leeward Isles, will open the "Sealand" for all kinds of work.

For itself

What kind of work? Yes, because there has pretty longed the Sealand as the most considerable marketplace in the market.



Showing the Sealand as a simple pleasure course or merely in the pilot.

It can be used for the rapid transport of passengers or freight, as a hunting flying office, or as an ambulance. In all of its roles it will give the greatest service at the lowest cost.

The Sealand's range is short. With 14 gallons and a payload of 1,400 lbs.—which is enough for seven passengers and luggage—the Sealand can cover only 400 miles at 100 mph. This is not a bad record, considering the cost, size, and a range of 400 miles. The Sealand's overall pitch properties in this is well below maximum value on the most rugged seaways. It has a takeoff run of 500 yards and climbs at 50 ft per minute.



FLYING BOAT PERSONALITIES

Captain:

J. S. SHEPHERD
TEAL



Captain J. S. Shepherd has been on the staff of Transocean Airlines Limited since 1945, but he flew with the Royal Canadian Air Force during World War II. Captain and served with No. 222 Squadron in Liverpool, and in May All was with No. 499 Squadron. He returned to New Zealand as a member of the defense flight which won the first Seaford shield for the R.N.Z.F. from the Little America Cup in Australia. He was seconded to the Air Force Flying Training School at Wigram, New Zealand, where he became a flight commander. Captain Shepherd has been a member of the Royal Air Force Flying Training Scheme. He is also a captain in the Royal New Zealand Air Force.

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FINANCIAL

Instability May Spur Mergers

Lack of business leaves industry three choices: liquidate, diversify or consolidate. Latter seen as most logical.

Whatever investment exists the aircraft industry presently enjoyed was scarcely inspired by the sharp cancellation of the Neptunus and North American aircraft.

This surprise Air Force action high lights the extreme vulnerability of any company with the government as its sole customer. The aircraft industry always has characterized by a high degree of concentration due to a high cost of development, but now, in the wake of cancellation of Neptunus, Sodalis cancellation and reallocations of orders, many focus on sharper cutting the highly speculative nature of the industry to come.

First, the partners of Convair are now regaining the company's good fortune in obtaining a sizable piece of business by another Air Force dictate at the expense of other bidders. But how secure can such partners feel when it is realized that similar sets of priorities and circumstances are always at play and may result in another series of orders of Convair, that time of Convair?

Second, Lockheed—in the same manner, no aircraft company can feel secure with its present-day business and bidders remaining except by the Air Force.

Recent shifts in aircraft awards stimulate the contractors made necessary by the Air Force in a result of President Truman's budget recommendations, although these recommendations still are subject to congressional action. The indicated funds would repeat only 40 Air Force groups compared to about 60 now in operation and contrasted with the 100 groups existing at the last time of Convair.

Recently issued by some official sources are the recommendations of the President's Air Policy Commission and of the Congressional Aviation Policy Board. The economic means used by these independent groups—a very significant strong focus for the aircraft builders that at long last a definite note of stability was to be introduced into the industry.

Certainly no accusation of bias greeted the final report of the two inquiry groups. A thorough, penetrating effort was made to ascertain all of the facts and to advance fair, reasonable proposals which were constructive and

could be supported by the country. The quality of the two groups and their sponsorship of recommendations was a major factor in slowly restoring investor confidence to the aircraft industry.

More Prober—Other considerations had quickly been created to probe the health of the aircraft industry. Report of last year's investigation, however, the same faith and confidence in the ultimate fulfillment of the final recommendations will be lasting. Recent removals of policy and the consequent pressure to leave them blank for some time to come.

Finally, the most encouraging hope for the industry is the aircraft industry's interest in the purchase for margins and consolidations which now appear to have raised a few stars clear in a realm of recent developments.

The curtailment of aircraft procurements hardly does house the fact that there simply is not enough military business available during postwar to support the entire industry perfectly employed.

Plant Capacity—There is a great need of plant capacity to serve the present level of available business. At present, during the war, "no one" aircraft production was at the rate of 9,100 per year. According to testimony introduced at the hearings of the President's Air Policy Commission, the present covered area of the major aircraft manufacturers now serving the military exceeded \$1 billion in U.S. \$1.9 billion. If per year this area should expand a point, up to 100,000 aircraft, it would require 100 million sq ft of floor space.

Appling the same measure, they should expand an additional 191 million square pounds per year at peak utilization. It follows that the potential increase in plant aircraft capacity under conditions such as obtained in 1943 and subsequent allowances for the contribution of the personal plane ratio, is apparently nearly 500 million pounds of surface per year.

Contended with this existing and potential capacity is the estimated 17 million aircraft pounds which will be built during 1949 with only a slight higher figure for fiscal 1951. Top Air Force officials find it difficult

to justify the economic existence of 15 separate engine aircraft builders to compete for such a small market in relation to available capacities.

Financial observers point out that unless there are the full effects of the current program of rearmament that would follow the full strength of attacking military aircraft around a new era of capabilities, if they do so, could savor these resources. This could be done through any one of a series of measures: legislation in part or whole, diversification in other industries, and consolidation in segments.

Least Likely—Liquidation in part or whole is the least likely of all proposals. No management is anxious of shifting off the source of its support. While large scale business has been built up and we obviously are naturally the product of the business, special developments are made under force of strong shareholder pressure to leave their mark for some time to come.

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SALES & SERVICE

Cessna In Front

High dollar volume, airplane shipments, are reported in 1948.

By Alexander McShane

Cessna Aircraft Co. boosted dollar volume in 1948 previous reports, said \$700,000 above the dollar total for 1947, and made a strong lead among light plane manufacturers in a year when too many light plane companies missed.

During 1948 Cessna production reported a 1948 sales total of \$5,732,129 in a set selling price base. Cessna has led all other general plane manufacturers in the number of planes shipped with a total of 1031 planes (thus Avco Corp., nearest competitor, has 760 planes listed Cessna.)

Foremen—In the recent Cessna annual distributor meeting at Wichita, Walter D. Miller and Don Flores, sales manager and special referee to the Top Flight Club, emerged as the top distributor who showed the largest sales volume. Miller, Manager, Amarillo, Blackwell, Okla.; Petroleum Flying Service, Shreveport; Gulf Flying Service, Shreveport; Gulf Flying Service, Wichita, Kansas; Amarillo, Dallas, Wichita, Aviation, East Texas; Mid-State Aviation, Northland, Ill.; Cessna Marine, San Pedro, Calif.; Los Angeles Flying Service, Minneapolis; Los Angeles Flying Service, Bellanca, Mo., and two Air writers, Inc., Detroit.

A total of 40 distributors were cited for having an increase of the "Plus" Club, for doing a larger dollar volume of new explore sales in 1948 than in the previous year.

Merchandise—Plus Club members in addition to aircraft and Top Flight gear, including Avco Safety Belt bags, Avco Oil of Gulf, Texaco Av Gasoline, Texaco Grease, Mobil Charlotte N. C. Concentrate, Avco Demarest Clark Flying Service, North Park N.Y., Consolidated Aircraft, Ft. Wayne, Ind., Texas Flying Service, Louisville, Ky., Dixie Air Taxi Service, Fla., Hartsfield Airport, Chesapeake City, Littleton, Col., and Ohio Kestrel Service, Attica, Ind., Red, Strader, Fisher Service, Clinton, Iowa, Fisher Aviation, San Antonio, Victoria Aircraft Sales & Service, Lubbock, Tex., Standard Wires, Fort Davis, Alaska, Orlando, Belvoir, Fla., Gehr Commercial Air Service, Inc., Johnsonburg, South Africa, Br-

Vigilante, St. John, Puerto Rico, El Dorado, Torreblanca, S.A., Montevideo, Uruguay, and Corles, Spain, Latin America.

The Cessna plane definitely will be flying in 1949, and probably more than ever before. The manufacturer is increasing production, cylinder and engine parts, and the firm appears to be making better sales.

Part Importance—In the month following Cessna annual report, the fiscal year ending Sept. 30, 1948, President Williams stated that sale of parts and accessories for Cessna aircraft was becoming an increasingly important part of the company's sales volume. At that time the company reported sales of parts and accessories,



MIAMI WINNERS

"More pieces per tool grind"



The Foreman of this progressive shop (left) consults with a Gulf Lubrication Engineer on results with Gulf L.S. Cutting Base in machining clock parts.

Costs Down—Production Up!

"We've sharply reduced time per piece, improved surface finish, and greatly extended the number of pieces per 1000 grind since we switched to Gulf L.S. Cutting Base," says this Foreman of Mann Screw Machine Products, Inc., Waterbury, Conn.

"On our new 45° autoturns we are performing two turning, one threading, and one cut off operation on a steel clock part at the rate of 1.2 seconds per piece. With the cutting oil we used previously the time per piece was much higher."

"Just as important to us has been the increased number of pieces per tool grind. With Gulf L.S. Cutting Base we are now running 16,000 pieces before regrinding of the tools is necessary. Add the fact that we are getting better finishes, and you can see why we're gratified by our experience with this fine cutting oil."

Here's another example of how the proper application of the right Gulf quality cutting oil improves production and lower costs. To make sure that you're getting all the benefits possible through the use of more suitable cutting oils, call in a Gulf Lubrication Engineer today.

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PIONEER EQUIPS GROUND STATIONS WITH
Wilcox Type 378A Package Radio

PACKAGE DESIGN SPARES TIME IN INSTALLATIONS

The Type 378A is complete from microphone to antenna, ready for immediate use once it is designed for an aircraft. Wilcox provides air commanders at smaller radio centers.

PROVEN COMPONENTS INSURE QUALITY AND PERFORMANCE

The Type 378A is a complete VHF receiver and Type 204A VHF Transmitter. The Type 378A is ruggedly built, tested by leading stations, proven units are now available at package price.

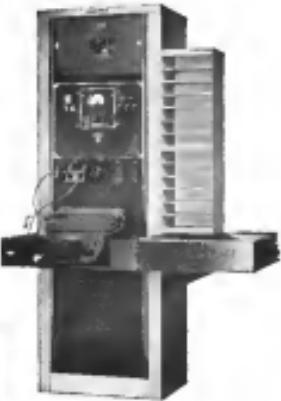
NEW AIDS TO CONVENIENT OPERATION

The telephone handset with convenient push-to-talk feature, an ear set with both headphones and microphone, and a small key for channel selection are mounted on the radio. The 378A includes dual band message keys, and a speakerphone option that can be installed in an airplane in addition.

LOCAL OR REMOTE CONTROL

If desired, the control panel can be removed and the 378A can be operated without being mounted on the panel or by simple adaptation to pre-existing control equipment.

Wilcox aircraft radio also 100% equipped with the new WILCOX Type 378A. Address W.M. Company, Inc., Kansas City, Missouri.



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WILCOX Aircraft Radio Division

Write today for complete information.

for Cessna planes during the first nine months of 1948, at over \$1 million.

The manufacturer reported total sales of \$14,295,221 and earnings of \$952,866, or 7% above a year of stock outstanding, for fiscal 1948. It paid a cash dividend of 25 cents per share, marking the eighth consecutive year in which stockholders received a dividend.

Wallace reported that diversification of products contributed a great deal in stabilizing employment. Cessna had 1,575 employees on the payroll at the fiscal year's end, compared to an average employment for the year of 1,514.

Air Scholarships

For leading U.S. aviation technical schools are offering 28 full scholarships to advanced young men in Latin American countries, with awards to be granted in March.

Wayne Webster, Administrator, Training Wing, Air University, Washington, who is acting as liaison representative for the scholarships, said that they were offered by Cal Aero Technical Institute, Los Angeles; Eastern Middle International School of Aviation, Miami; Pittsburgh (Pa.) Institute of Aerodynamics; and Spartan School of Aeronautics, Tulsa.

Notices to which scholarship offers are being made include Argentina, Brazil, Chile, Colombia, Mexico, Peru, Venezuela, Ecuador, Uruguay, Panama and Bolivia. Grants aggregating approximately \$70,000 over four years will be awarded to each student. The award and scholarship winners will be selected after two competition to the U.S. and Latin American flying experts in the U.S.

New Responsibility

Milwaukee County (Wis.) has announced that after Feb. 1 gasoline sales and purchases at General Billy Mitchell Field will be the responsibility of the two fixed base operators, Anderson Air Activities and Midwest Airlines, Inc., and that the owners will no longer handle fuel sales nor be responsible for fueling.

Anderson followed a statement of Met. & E. Petrols after many years of service as manager of the principal Milwaukee airport.

1949 Cruisair

Cruisair Aircraft Corp. has announced a pricing of \$10,910 for the New Castle, Del., on the 1949 model four-place Cruisair. New features include an enclosed instrument panel with indirect lighting, permanent flight group, a standard, including rates of climb, basic, and term, sensitive altimeter and clock, adjustable front seats, heater for both front and rear seats, new color schemes.

BRIEFING FOR DEALERS & DISTRIBUTORS

MINNESOTA FIXED BASE ANALYSIS—Of 29 Minnesota fixed base operation replying to a recent questionnaire from the state attorney's department, 18 expected their gross dollar volume for 1948 would be larger than in 1947. 11 said it would remain steady, and 10 expected it would be about the same. The largest total annual volume in buildings, aircraft shops and parts was estimated over \$1 million, and among this had approximately \$250,000 rentals. Confusing changes of hangars, shops and service facilities, was seen as a major problem.

MASSACHUSETTS CONVICTION—First criminal proceedings under the new Massachusetts Aviation Conservation regulation on "misappropriation of aircraft" ended in conviction of Elton L. Martin, Cambridge, on charges of misappropriation and conceal and reckless operation.

Frank Sweeney, chief state attorney's spokesman, presented evidence showing that Martin took a plane from the hangar at Belmont Wilington Airport, at 10:30 pm Nov. 23, and attempted to intercept with 150 ft ceiling. He had no lights except headlights of a broom on the mains. He climbed to 300 ft and then began continued in the overcast and crashed. Plane was demolished but Martin was uninjured. He was given a three-month house of correction sentence (suspended) for the misappropriation charge, and fined \$300 on the other charges.

FIRE RETARDANT COATING—Balgay Air Corp., New York makes of the Regis protective coating for airplanes, is aware that somewhat prior of a recent technical firm Jack Denton, Phoenix, Ariz., Illinois owner, who thinks that a Re-Glo job on his airplane probably saved his life.

Denton started to make an emergency landing on a highway near Phoenix and his left wing struck a high voltage wire which caused the wing fabric to catch fire near the silicon. Instead of spreading however, the fire remained localized and was extinguished by the deposition. Denton flew on to land at Phoenix, and found that the heat had melted the part of the metal structure of the wing, and that the structure suffered considerable collision damage but that the fabric damage to the fabric was negligible.

The manufacturer reports that laboratory tests have shown that fabric treated with Re-Glo is 30 percent slower burning and 35 percent stronger than ordinary dyed fabric.

CODH RPP GETS AWARD—Radio commentator Arthur Godfrey who has been a persistent plagger for aviation in his programs and who commutes regularly on his Navajo between his Yugoda Ranch and New York studio won the 1948 National Flight System award presented by Dick Powell, NFS president, as the private pilot who has done most to promote private flying in America.

SPORTSMAN'S SHOW—Five of the principal four-place business and personal planes are scheduled for display at the National Sportsman's Show in Grand Central Palace, New York City, Feb. 19 through 27, all exhibited by local distributors. The planes and their exhibitors include Beechcraft Bonanza, American Aviation Corp.; Cessna 170, Princeton Aircraft Sales; Piper Super Cub and Pawnee Station, Solar Inc.; and Ross Norton, Midwest Air Service.

Aerospace manufacturers, suppliers and companies will also have exhibits exhibits along with educational aviation exhibits by Air Force Navy, and CAA.

AIR ASSOCIATES AT GRAND CENTRAL—Opening of a new Air Associates supply store and warehouse at Grand Central Airport, Glendale, Calif., has been announced. The aviation supply store formerly operated by Grand Central in distributing retail sales, but the Grand Central company will continue to act as distributor for the various search products it has handled in the past.

—ALEXANDER McSHURLEY

Damon Accepts TWA Presidency

Former American Airlines official joins forces with Howard Hughes, bitter enemy of overseas monopoly.

Ralph S. Damon, who resigned two weeks ago as president of American Airlines following policy disagreements with board chairman C. R. Smith, has been elected president of TWA.

In his new post, Damon will be in a strategic position to combat AA's proposed sale of American Overseas Airlines to Pan American Airways. It was this and which brought the Rail West between Damon and Smith. At TWA's insistence, Damon recalled LeMoyne C. Cohn, who resigned last year to become chairman and general manager of Consolidated Vultee Aircraft Corp. Since Cahn's departure, Warren Le Person, TWA board chair man has been in overall charge of the carrier's policies and operations.

► **Long Friendship Crad - Howard Hughes**, who has a controlling interest in TWA, finally prevailed on Damon to accept the new post. A friend of Damon's from years past, Hughes had long cherished the hope of bringing the former AA executive into the TWA organization.

Le Person, after the resignation of LaMoyne Cohn, I immediately thought of Ralph Damon as my first

choice to succeed Cohn," Hughes declared. "However, I was aware of Damon's intense feeling of loyalty to American Airlines, and I felt that an approach from me would be needed.

Then, Hughes continued, "I began having impacts of Damon's dissatisfaction with the expanding role of American Airlines' overseas division to Pan American Airways. Finally, I learned that Damon had come up with a plan to go into a greatest need division and wanted me to come to Los Angeles for a talk." Both Cahn Instrument Inc.—He did so, and I found that, in addition to our long-standing friendship, we shared a feeling against the so-called chance statement (based on Pan American). I asked Damon if he would consider the presidency of TWA. This led to further meetings between us, and finally, Damon informed me he was willing to accept."

Damon's decision to take the TWA post came four days after his formal resignation from American. When he left American, Damon said he had no ulterior motive to nominate him or consider the case.

Feeder Activation Awaits RFC Loan

Plans for activation of the nation's longest feeder network are wrapped up closely, except really within the Reconstruction Finance Corp. as a \$60,000 loan application.

Parks Air Lines, which was awarded 4,000 miles of short-haul routes in three separate CAB decisions during 1946 and 1947, had hoped to start service on part of its system last spring. But its forward-looking negotiations for RFC aid have been in progress nearly a year without a final decision.

Actual application for the RFC loan was made in Parks Aircraft Sales and Service, Inc., which controls the feeder. An first flight on Feb. 1st and apparently was not antithetical to CAB and therefore, not acceptable to RFG.

► **Approval of Coast-Urged**—Details of the feeder's financial plan were disclosed in a recent CAB examiner's re-

port which urged the Board to grant conditional approval to the proposed acquisition of Parks Air Lines by Parks Aircraft Sales and Service, Inc. The examiner said that sales price now has been reduced from CAB's original transaction between Parks Aircraft and Parks Air Lines should be reinstated. He added that Parks Aircraft should not sell its own stock to raise funds for the feeder without first obtaining CAB approval.

Parks Aircraft plans to convert the DC-3s which Parks Air Lines would own on its feeder routes. The transaction would involve between \$100,000 and \$150,000. In addition, Parks Aircraft would receive the feeder's planes at a cost estimated between \$50,000 and \$60,000 monthly.

► **Strategic Route**—Parks Air Lines' plan attempts to borrow \$500,000 from RFC is subject to the condition that half of the money would be lent to the referee and the other half invested in the carrier's stock. After activation of the feeder's St. Louis-Chicago and Chicago-San Cohn, Inc., looks with RFC and additional funds needed to open other routes would be obtained by selling stock in either Parks Air Lines or Parks Aircraft.

Parks' system extends to the south to Memphis, Tenn., and to the north to the Twin Cities. West to Sioux City and east to Indianapolis. If RFC is able to make the \$60,000 loan, Parks hopes to be able to finance the feeder operation through use of about \$2 million worth of rail property, including airports.

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► **Stock Sale Proposed**—The parent company attempted to borrow \$500,000 from RFC is subject to the condition that half of the money would be lent to the referee and the other half invested in the carrier's stock. After activation of the feeder's St. Louis-Chicago and Chicago-San Cohn, Inc., looks with RFC and additional funds needed to open other routes would be obtained by selling stock in either Parks Air Lines or Parks Aircraft.

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All-time High

Air mail revenue hit an all-time high at the close of 1946, with the relatively new air mail post service contributing significantly to the upward trend of air mail traffic.

Preference experts indicate that December's air mail traffic may have exceeded 14,000,000 lbs. the figure for 1945. On Dec. 31, 1946, the total air mail received in the first 11 months of 1946 exceeded \$4,770,258 lbs. and exceeded the volume for all of 1947 by over 4,000,000 lbs.

Nonskied Enjoined

Modern Air Transport, unaffiliated carrier air mail in New York-Miami-Pacific Coast run, has been enjoined by a Federal court from continuing significantly subsidized operations in violation of the Civil Aeronautics Act. The case was one of several being prosecuted by CAB attorneys as an effort to limit irregular lines to contract the frequency and regularity of their services in accordance with the unclassified exemption.

Low Fares Rouse New Protests

United and Eastern believe bargain tariffs are not enough to cover depreciation and overhead costs.

Continued effects by individual air lines to generate more passenger business with lower rates and more flying time in their current fares is causing them to reassess their market share.

United Air Lines and Eastern Air Lines are taking opposition to the trend toward higher fares. They feel that some of the rates proposed by their competitors are financially unsatisfactory, partially providing with current revenues to pay extra payload costs, but not enough to cover depreciation and overhead.

► **Cargo Ship Urged**—The 16 percent industry-wide fuel rate reduction with CAB's bidding rate increase has been diluted by subsequent reductions that United has made in its revenue gains in each of the past three months. With fares cut approximately 3.5 percent since Jan. 1, against 7.6 percent fare cuts in early 1947, against 10.4 percent fare cuts in early 1946, says cargo market studies of airline and "load" fares.

Hansel Coors, United's vice president in charge of traffic and sales, has explained his company's opposition to Capital Airlines' seventh service between New York and Chicago. If RFC is able to make the \$60,000 loan, Parks hopes to be able to finance the feeder operation through use of about \$2 million worth of rail property, including airports.

► **Mail Cost Challenge**—Western's as-published fuel rates for mail have been considerably less than 5 percent of its total operating cost, according to UAL's complaint. During the second quarter of 1947, United spent its own cost of food and operating of only 1.9 percent of total operating expense.

If UAL's new tariff is approved by CAB, United claims it will be unable to compete with Western's regular 5 percent fuel cut on its transocean flights while maintaining passenger rates on flights where mostly unseated UAL passengers that food service is necessary on every flight. "And the position is," he continued.

► **Service Restraints Imposed**—United decided whether import service rights on its routes in certain areas are presently adequate to serve a payload of 44 to 50 lbs. passenger equivalents. The move proposed by UAL is small. UAL planned not to pay passenger freight fees for enough passengers from domestic areas of needs shift to travel by airline.

Western has stated that distances between cities on its routes are not such that service would support mail service profitably. Before proposing the new tariff, Western had, as an experiment, selected three routes on its system where if fed receivers or airport restaurants while the plane was being loaded and served. The method met with favorable public response according to UAL officials.

► **Site-Plot Earth-While**—Protesting after new route. United last week planned to file for CAB approval's spe-



LOBBY LUXURY AT TOLEDO

The new \$175,000 airport terminal at Toledo, O., with its simple structure in the U. S. from the standpoint of design and decoration, according to airline officials who have inspected the building. Housing the ticketing and passenger handling facilities of four airlines, the terminal also houses the office of the aviation commission and a restaurant which, like many freight

end fare of its own. It plans to offer passengers a 25 percent discount on fares starting May 1.

And WAL, paradoxically, has its oil feathers with cut rates. An unidentified carrier, California Coast Airlines, signed off 50 percent increases in offering transoceanic DC-10 contracts between San Francisco and Los Angeles. Western has just started

work in altering the type of planes it uses to one.

Finally, less than a month ago, BOAC, BAe and British European Airways were given the right to sister their own aircraft. In the future, the British Ministry of Supply, which has taken the purchasing agency for the carriers, will be responsible only for engineering development work on each aircraft.

Emergency Plans Set By Air Forwarders

The Air Freight Threaders Association, at a third annual meeting in Washington recently, set up a committee to develop plans for efficient air freight forwarders and "know-how" in case of national emergency.

Questionnaires which will provide a

complete and continuing picture of air freight forwarders' resources will be prepared by the emergencies subcommittee group.

The committee hopes to be able to make an immediate contribution to air transport planning and logistics upon call by the National Defense Establishment.

John H. Stewart, president of Air Transport Inc., commented his support of the Air Freight Plan.

British Air for 1970 Other new ATFA officers are Arthur Gold, Air Express International, New York, executive vice president; J. D. McPherson, Airborne Freight, San Francisco; secretary George Hayes, Southern Forwarding, New York; and James A. Koenig, Air Freight, Philadelphia; treasurer, Ruth and Spudz, Trans Am Freight, East Haven, Conn.; vice president-administrative officer, and John Loyer, Loyer Air Freight, New York, vice president-domestic affairs.

ATFA last week was urged to organize a petition asking the U. S. Court of Appeals in Chicago to void a stay order of last fall which delayed execution of CAB's decision granting operating privileges to six freight forwarders. Earlier court action, CAB stopped issuing letters of registration to forwarders (AVIATION WEEK, Nov. 29).

Eastern Air Lines protested that Na-

tional's contemplated 27 percent fare hike coming in mid-June during the peak traffic season on the New York-Miami route—will result in a significant fare spike if the airline's fare structure remains

"as is." The airline's fare structure would be equal if not superior to other flights provided by NAL, Eastern declared.

CAB's response of the "Night Bird" fare is in line with the Board's belief that lower fares for legitimate charter services are preferable, whereas established airline fares may be detrimental to the industry. The flights NAL had planned for its Night Bird run are now operating as part of the carrier's regular schedule, according to Fortune.

Tudors IVs Grounded Again By British

British South American Airways' Tudor IV aircraft have been grounded for the second time in less than a year following the disappearance of another BSA plane flying down an over-the-lightning bolt route in November. The first lightning bolt involved a Tudor IV which crashed from Brazil to Japan with 20 persons aboard. In January 1945 one of the four engine aircraft carrying 11 persons vanished en route from the Azores to Fernando. A report of investigation apparently by the British Ministry of Civil Aviation disclosed last fall that the first lightning "must" occurs in isolated weather. AVIATION WEEK, Oct. 26.

► Through Probe French Caribou-owned BSA had five Tudor IVs at the time of the recent lightning and expected delivery on another four further as a result of the Caribbean winds—all BSA Tudor IVs are known to have been given 2 through examination.

The Tudor could be used open its nose bottom to allow passengers more room for luggage. Extrication of English's four-carbon fiber fuselages had been plagued by the fact that they had little

room in the tail fin which prevents an airplane from flying level when the tail is down, as in the case of New York, for instance, and the case of New York-Bermuda has 5125 square feet. Passengers are carried from departure points in contrast with BOAC in New York, by three domestic airlines—American, Eastern and Northeast. Flights leave for Bermuda four days per week.

► Few Rides to PGL—Air travel got a free ride in the past of embellishment and was permitted to stay over in New York for several days because in effect there was BOAC and the domestic line there the rest.

Colonial Airlines, which has daily Scrambler flights from New York to Bermuda and twice weekly flights from Washington, has agreed to add two more flights to BOAC's. It allows the same 5125 to all cities in the arc between Boston and Washington and permits passengers in both Washington and New York.

► FAA Plus—The American has what it calls a torque cap for the wise press (5120). This permits turbines to start



ANALYZER INSTALLED

East African engine analyzer the whole flight can be tested while in a Pan American Boeing 747. The installation of the analyzer in the Boeing 747 has been completed and is now in operation. In 3000 hours of engine running time, the analyzer installed in the Concorde engine control module. A light engine point out the sensor built into the left side of the deck and the two rotatable overload switch and the steady the cylinder being examined.

at either of Pan Am's gateway cities, New York or Boston, or any airline point between, make the trip to Bermuda through one gateway and return to the departure point through the other.

► Washington—Washington has also

included in Pan Am's list the plan with longings originating from those ports going through New York and.

► Another Plus—An arrangement permits Canadian to travel to Bermuda via New York at rates equal to those for Domestic flights direct to the island. Travel between Canadian ports and Pan Am's gateway will be via domestic or Canadian carriers.

► Pan Am has recently announced that the fare to the New York-Toronto flight has been cut from \$115 to \$105.

► Longer Fare Rule—While it has not yet set per day rates on its round trips to the islands, Pan Am's Air Freight department cannot yet in New York with the longest fare rule ever offered by an airline.

► Canadian Flight to Paris via New France for less than the fare from Montreal to New York, is 23 percent lower for charter flights.

► Most of the new rate arrangements have been made possible by agreements between international and domestic carriers and represent some of the broadest price cuts ever offered in airline history.

Most important price cuts are being offered by Pan American Airways, British Overseas Airways and Colonial Airlines to passengers traveling to Britain.

► BOAC has a flat fare which permits an traveler to fly from 15 cities either to Bermuda or to New York, for the round trip to the case of New York-Bermuda has 5125 round trip.

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included in Pan Am's list the plan with longings originating from those ports going through New York and.

► Another Plus—An arrangement permits Canadian to travel to Bermuda via New York at rates equal to those for Domestic flights direct to the island. Travel between Canadian ports and Pan Am's gateway will be via domestic or Canadian carriers.

► Pan Am has recently announced that the fare to the New York-Toronto flight has been cut from \$115 to \$105.

► Longer Fare Rule—While it has not yet set per day rates on its round trips to the islands, Pan Am's Air Freight department cannot yet in New York with the longest fare rule ever offered by an airline.

► Canadian Flight to Paris via New France for less than the fare from Montreal to New York, is 23 percent lower for charter flights.

► Most of the new rate arrangements have been made possible by agreements between international and domestic carriers and represent some of the broadest price cuts ever offered in airline history.

► Saver Plus—Pan Am's fare rule is 23 percent lower for charter flights.

► Training Programs—Scrambler also has started a chartered miles training program for the airline operators throughout the country. It will include seminars on "less is all" chartered as service to individual firms and other groups.

► Lessened the need for gas gauge "because of the user improved" regulation which the CAB is attempting to enforce regarding routes size rule.

► The future of the new scheduled airlines depends on the type of operation these men will be trained to perform."

► Scrambler sold over 1000 tickets for world and charted flights to and from the Christmas Islands.

► Strike Averted

Strikes by general personnel of American Airlines and Northwest Airlines have been averted for the time being.

American and the CIO Transport Workers Union agreed to place their strike before the National Mediation Board. The union had reported that 4000 American workers and store personnel throughout the U. S. voted overwhelmingly to strike for a 16 cent an hour wage increase, no increase pay, seniority provisions and other cost of living items.

► Contract deferred—99 planes to American Airlines and the carrier will defer 100 more for a total of 198. The American Aviaco, Western Air Lines and Continental Air Lines received their full orders of 33, 10 and 7康宝士 respectively last year.

► LA's currently is the only active helicopter aerial carrier in the U. S. Helicopter Air Service, certified by CAB for route work in the Chicago area, and Northwest Wings, the Del. has not yet submitted plans for starting operations.

Air Coach Contest

A New York travel agency which sells tickets for nonstop carriers is making the public to go on efforts to save what it claims to be "an evidently unsuccessfully produced industry."

It thinks the public can only determine the future of low-cost air travel through the CAB and CIO group, who telegraph communications be released and a communication officer added to the Bureau of Pacific Northwest Airlines flight is being described as a "representative of Northwest Airlines."

The carrier and its route radio communications have proved sufficient to the telephone key method and that the former has been approved by CAB.

The union charged CAB with "great lack" in preventing the 2300-mile nonstop flights because the NWA place could not accommodate much with routes such as in emergencies Northwest and that debris messages could be sent by wire to share station and related to ships when as far as the law communications could work.

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SHORTLINES

► Brazil—Proposed inauguration of mail service between Los Angeles and Rio de Janeiro has been delayed by CAB pending an investigation. Pan American Airways and Panair pro tested against the airway operation. Brazil is considering use of TACI as planes operating on the high altitude South American fields and has been making tests with a DC-4 at La Plata.

► British Caribbean Airways—Has received a license air carrier status from CAB authorizing service between Kingston, Jamaica, and Miami. Company plans to acquire at least two more ships, possibly with TACI.

► British European Airways—Although sporting four planes (DC-3s) flies about twice their own passengers and nearly twice as much vital and cargo as 1948, compared with 1947.

► BOAC—Sir David Hartley will resign as chairman on June 30. He will be succeeded by Sir Miles Thomas, senior deputy chairman. When Sir Hartley will conclude the deputy chairmanship with his present post of chief executive of BEA.

► Capital—Has inaugurated weekend engineering flights over Washington, D.C.

► Challenge—Has started CAB air transport to Salt Lake City and Nevada and Utah on its Beech Vincenter freight flights. Work crews are at mid-point.

► Chicago & Southern—U.S. Veterans Service is to be increased from five trips weekly to nine flights by May 25.

► Empire—Has increased frequency of trans-Cabo flights to serve Pan American Airways-Brazilian West African Flying Corporation which has offices at Rio de Janeiro.

► Mid-Continent—is putting at all flight centers weather reports covering residents and airports for areas served by NCA. Average miles of traffic will double the field of the each flight plan from 30,577 between Nov. 15 and Nov. 30 to 60,677 by Dec. 16 and Dec. 31.

► Pan American—Has leased two DC-4s from United Air Lines.

► Roberts—Has completed installation of VHF High Frequency radio and ILS equipment on all its planes.

► Scandinavian Airlines System—Car-

ried 15,811 passengers between New York and Europe in 1948 (against 17,553 in 1947). Peter H. Replogle has become executive vice president.

► Southern Airways—Hopes to begin service on the Memphis-Biloxi and Atlanta-Jacksonville legs of its health route I.

► Trans-W. I. (Dorothy Blomius, who resigned recently as director of air services for the Air Transport Association) has returned to UAL as chief of flight test programming at San Francisco. He last left UAL in 1945 to join Trans-W. I. Trans-W. I. has since continued eastbound flights in effect alongside TACI's shorter service between San Francisco and Honolulu starting Mar. 3.

The former SWI launched an intensive training program in preparation for Steamerboat service on the California-Hawaii run.

► Western—Gives a non-committal answer to a recent record of one to 49 cars for the 1½-mile trip between Portland, Ore., and San Francisco. Mark was set with a Goodyear tire which weighed 5½ cwt.

Cabin Up In 1948

Better homes during the last four months on the way enabled Colonial Airlines to carry a total of 142,961 passengers—downslightly during 1948—a gain of 35% over 1947. Total losses for the first three weeks of 1948 were still ahead of the same period the year before. Advance bookings indicate better business on Colonial's Birmingham run than much around levels.

► Craggs & Southern—U.S. Veterans Service is to be increased from five trips weekly to nine flights by May 25.

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CAB SCHEDULE

June 11—Orvis, Inc., of Milwaukee, Chicago, New York, Boston, Philadelphia, Detroit, St. Louis, Los Angeles, San Francisco, Seattle, Portland, and Salt Lake City, has been granted a certificate of public convenience and necessity.

► Pan American—Has been granted an extension of its CAB certificate of public convenience and necessity for its South America flights.

► Pan American—Is continuing its campaign against Socony Mobil Oil, Royal Dutch Shell, and Esso.

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EDITORIAL

Time for Caution

The recent aircraft have raised as much interest in airline safety as Ralph Barnes' unexpected resignation from the nation's largest domestic carrier to make with a traditional rival and its primeiro, meet and always the same chief stockholder, Howard Hughes. Suddenly the bright light between Senator Brewster, the great New Haven lawyer, and Hughes flares again.

Another reason for the keen industry interest is that there are lots more women who enjoy the confidence and respect that Ralph Barnes commands. And such a man is welling for principles to conflict a man who is both sensible and hard-headed.

It looks like another pitched battle in this very competitive and hard-pasted industry. Per American wants to buy American Overseas from American; American's chief executive is selling. So the aggressive PAA, which always knows what it wants, sees itself over one more hurdle toward an goal-to be the sole U.S. flag transoceanic airline.

Equally, American Overseas will be pressurized American News-will all remain unopposed, especially if monopoly by legislation. It shall do. We oppose any Congressional attempts to set up a new U.S. transoceanic air carrier.

Business dealings between our own airlines, however, are another matter. In the U.S. economy if one company succeeds to sell out to another, that is its own business. That, at least, is reasonably clear, not by law. In the field of transportation, however, the appropriate government agency must find an objective to avoid transaction on the basis of public interest.

It is difficult for us to see how the sale of American

Overseas will mean better public service than ADA and PAA now offer separately. Certain economies would no doubt be possible. But the Civil Aeronautics Board must decide when maximum start becoming inhibitory to public service and national defense.

U.S. airlines are so far ahead of their foreign competitors in all respects that the only kind of competition which now seems to advance the state of the art is the competition between the U.S. airlines themselves.

The proposed deal would not end one of the three U.S. transoceanic carriers, and we hope that does not happen. But CAR should appear to the CAA. It would be difficult to justify it if no one was around. We suspect that Mr. Hughes and Mr. Barnes明白 them only bid for American Overseas and that CAR decides the next move.

At any rate, as we sit in the grandstand watching this "inane spectacle," as the critics say, let us not forget the hidden potential dangers to the industry.

This is an many older problem, in another sort of strength for five men on the Civil Aeronautics Board. Let us not provoke the same kind of thoughtless action in the White House that occurred in the Roosevelt era. The Boardmen finally became so emboldened by the publicity involving the heated bickering among members of the Independent Air Safety Board that he shelved that very important body altogether. We have not yet recovered from that blow.

We must guard even more against thoughtless, precipitous action on Capitol Hill, which could set the industry back many years.

The impending struggle has dangerous possibilities.

The King Can Do No Wrong

You may say the government of the United States of America is under your constitutional right. Note that, in the states, causing the Authority is there no specific grant of authority.

The fact probably accounts for the high-handed attitude of the Authority in its attitude toward the airlines. Because the Authority recognizes no arguments but its own, no rights of others, no obligation to assume the slightest responsibility for the road markings of congressional that are necessary to start resolving an difficult issue.

It has followed its refusal to observe the airline's idle-with-Airport leases made with the city, by towing down the least certain offer. Thus, despite the current request made from the bench by New York Supreme Court Justice Thomas J. Cull, those of the airlines had offered to deposit any difference in charges, to be determined later, for the use of the new Boeing Stratocruiser being delivered soon. Eagle riders have gone to court to compel observance of the leases.

George W. Whitehead attorney representing the airlines is a powerful argument. Denouncing the Authority as "the unopposed king," he pointed out that as a landlord it will make sole full-sweepers are collated at those three airports.

ROBERT H. WOOD

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The North American F-86, powered by a General Electric TG-190 (USAF Type J47) turbo-jet engine, is the "blue ribbon" winner of the new official world speed record of 670.981 miles per hour.

Piloted by veteran ace Major Richard L. Johnson, the turbo-jet plane bettered its own unofficial record of 669.75 mph set at the National Air Races at Cleveland. The F-86 was completely armed and carried a full complement of ammunition. The new record was announced on Air Force Day by General Hoyt S. Vandenberg, Chief of Staff of the Air Force.

The TG-190 power plant of the super-streamlined F-86, was developed and produced by G-E's Aircraft Gas Turbine Divisions at Lynn, Mass. The former speed record of 650.796 miles per hour was set by a Navy Douglas D-558 "Skystreak" propelled by the General Electric designed TG-180.

General Electric research and engineering works continuously to improve existing products and to devise new means to assist its associates in the aviation industry. G-E leadership in the development and production of engineered systems and precision products for aircraft is available to you by contacting your nearest G-E office, Apparatus Department, General Electric Company, Schenectady, New York.

GENERAL ELECTRIC

